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DERWENT-ACC-NO: 2000-213304
DERWENT-WEEK: 200019
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TITLE: Piezoelectric power supply for motor vehicle has booster connected between rectifier and capacitor to boost amplified rectified piezoelectric voltage, and charge capacitor

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PRIORITY-DATA: 1998JP-0147865 (May 28, 1998)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE
PAGES	MAIN-IPC	
JP 11341837 A 005	December 10, 1999 H02N 002/00	N/A

APPLICATION-DATA:

PUB-NO	APPL-DESCRIPTOR	APPL-NO
APPL-DATE		
JP 11341837A	N/A	1998JP-0147865
May 28, 1998		

INT-CL (IPC): H02M003/155; H02N002/00

ABSTRACTED-PUB-NO: JP 11341837A

BASIC-ABSTRACT: NOVELTY - A capacitor (C2) is charged by the rectified piezoelectric voltage output of a rectifier (40). The piezoelectric voltage is generated by piezoelectric elements, based on applied oscillation. A booster (50) is provided between the rectifier and the capacitor to boost the rectified piezoelectric voltage and to charge the capacitor.

DETAILED DESCRIPTION - The booster has a transistor (T1) that is turned ON when piezoelectric voltage is impressed through a diode (D2) and a resistor (R1). When current flows through transistor, electromagnetic energy is stored in an

electromagnetic coil (K1).

The energy of coil is used to charge the capacitor through a diode (D3) when transistor turns OFF.

USE - The piezoelectric power supply is used for motor vehicle.

ADVANTAGE - Enables storage of energy even when piezoelectric element oscillates at non-resonant frequency efficiently.

DESCRIPTION OF DRAWING(S) -

The figure shows electric circuit diagram of piezoelectric power supply. (40)

Rectifier; (50) Booster; (C2) Capacitor; (D1-D3) Diode; (K1) Electromagnetic coil; (R1) Resistance; (T1) Transistor.

CHOSEN-DRAWING: Dwg.1/5

TITLE-TERMS:

PIEZOELECTRIC POWER SUPPLY MOTOR VEHICLE BOOST CONNECT
RECTIFY CAPACITOR BOOST

AMPLIFY RECTIFY PIEZOELECTRIC VOLTAGE CHARGE CAPACITOR

DERWENT-CLASS: U24 V06 X12

EPI-CODES: U24-D02A; V06-M06D1; X12-J02A;

SECONDARY-ACC-NO:

Non-CPI Secondary Accession Numbers: N2000-160100

CLIPPEDIMAGE= JP403251261A

PAT-NO: JP403251261A

DOCUMENT-IDENTIFIER: JP 03251261 A

TITLE: ELECTRONIC APPARATUS WITH POWER GENERATING MECHANISM

PUBN-DATE: November 8, 1991

INVENTOR-INFORMATION:

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APPL-NO: JP02050431

APPL-DATE: March 1, 1990

INT-CL (IPC): A61N001/378;A61N001/362

US-CL-CURRENT: 607/35

ABSTRACT:

PURPOSE: To omit a battery in a medical electronic apparatus of an embedded type by providing a piezoelectric type power generating mechanism which is embedded in a living body and generates charge by vibration in the living body, a capacitor for accumulating the generated charge, and an electronic circuit connected to the capacitor.

CONSTITUTION: A piezoelectric bimorph 1 has a constitution in which a piezoelectric element 3 is stuck to one principal plane of a disk-like metallic plate 2, and generates charge by receiving vibration in a living body. As for a piezoelectric material for constituting the piezoelectric

bimorph 1, a material whose electro-mechanical conversion efficiency is high, and whose piezoelectric constant (d) is large, for instance, lead zirconate-titanate is used suitably. The charge generated by the piezoelectric bimorph 1 is rectified by allowing it to pass through a rectifying circuit 6. To a post-stage of the rectifying circuit 6, a capacitor 7 is connected, and in the capacitor 7, the rectified charge is accumulated. The charge accumulated in the capacitor 7 is given as a current of a prescribed voltage to an electronic circuit 9 through a constant- voltage circuit 8. To the electronic circuit 9, driving power based on vibration in the living body is given without necessitating a battery, and a surgical operation at the time of changing the battery can be omitted.

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	Type	L #	Hits	Search Text	DBs	Time Stamp	Comments
1	IS&R	L1	25	(310/339).CCLS.	US-P GPUB ; EPO; JPO; DERW ENT; IBM TDB	2002/08/2 6 07:55	
2	IS&R	L2	67	(310/338).CCLS.	US-P GPUB ; EPO; JPO; DERW ENT; IBM TDB	2002/08/2 6 08:00	
3	IS&R	L3	421	(310/338).CCLS.	USPA T	2002/08/2 6 08:04	
4	BRS	L4	586	piezoelectric same (rectifier or rectified or rectification)	USPA T	2002/08/2 6 08:47	
5	BRS	L5	30	piezoelectric same (rectifier or rectified or rectification)	US-P GPUB	2002/08/2 6 08:54	
6	BRS	L6	412	piezoelectric same (rectifier or rectified or rectification)	EPO; JPO; DERW ENT; IBM TDB	2002/08/2 6 08:54	